Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A high frequency line-to-waveguide converter comprising:

a high frequency line including a dielectric layer, a line conductor disposed on one surface of the dielectric layer, and a ground conductor layer disposed on the same surface so as to surround one end of the line conductor,

wherein the one end of the line conductor is short-circuited to the ground conductor layer;

a slot formed in the ground conductor layer so as to be substantially orthogonal to the one end of the line conductor and coupled to the high frequency line;

a shield conductor part disposed on a side of or in an inside of the dielectric layer so as to surround the one end of the line conductor and the slot; and

a waveguide disposed on a side of the other surface of the dielectric layer so that an opening is opposite to the one end of the line conductor and the slot, the waveguide extending in a direction from the one surface of the dielectric layer toward the other surface thereof, and being electrically connected to the shield conductor part.

2. (Original) The high frequency line-to-waveguide converter of claim 1, wherein the shield conductor part includes a plurality of shield through conductors disposed in the inside of the dielectric layer.

3. (Original) The high frequency line-to-waveguide converter of claim 1, wherein a thickness of the dielectric layer is approximately (2n - 1)/4 (n is a natural number) of a wavelength of a signal transmitted through the high frequency line.

4-5. (Canceled).

6. (Original) The high frequency line-to-waveguide converter of claim 1, further comprising:

a second dielectric layer laminated on the dielectric layer on which the line conductor is disposed; and

one surface ground conductor layer provided on one surface of the second dielectric layer,

whereby the high frequency line is constructed as a coplanar line structure having a ground.

7. (Original) The high frequency line-to-waveguide converter of claim 1 further comprising:

an internal ground conductor layer disposed in the inside of the dielectric layer between the ground conductor layer and the waveguide and having a transmission opening for causing an electromagnetic wave of a signal transmitted through the high frequency line to be transmitted between the slot and the waveguide.

8. (Canceled).

9. (Original) The high frequency line-to-waveguide converter of claim 7, wherein an area of the transmission opening is half or less of an area of a region surrounded by the shield conductor part.

10. (Original) The high frequency line-to-waveguide converter of claim 7, wherein the shield conductor part includes a plurality of shield through conductors disposed in the inside of the dielectric layer.

11-12. (Canceled).

13. (Previously Presented) The high frequency line-to-waveguide converter of claim 7, wherein the ground conductor layer and the internal ground conductor layer are connected by a connection conductor disposed to pass through the dielectric layer along the transmission opening.

14. (Original) The high frequency line-to-waveguide converter of claim 7, further comprising:

a second dielectric layer laminated on the dielectric layer on which the line conductor is disposed; and

one surface ground conductor layer provided on one surface of the second dielectric layer,

whereby the high frequency line is constructed as a coplanar line structure having a ground.

15-20. (Canceled).

21. (Previously Presented) A high frequency line-to-waveguide converter comprising:

a high frequency line including a dielectric layer, a line conductor disposed on one surface of the dielectric layer, and a ground conductor layer disposed on the same surface so as to surround one end of the line conductor;

two slots formed in the ground conductor layer so as to be substantially orthogonal to the one end of the line conductor and coupled to the high frequency line,

wherein the two slots are non-connecting;

a shield conductor part disposed on a side of or in an inside of the dielectric layer so as to surround the one end of the line conductor and the slot; and

a waveguide disposed on a side of the other surface of the dielectric layer so that an opening is opposite to the one end of the line conductor and the slots, the waveguide extending in a direction from the one surface of the dielectric layer toward the other surface thereof, and being electrically connected to the shield conductor part.

22. (New) The high frequency line-to-waveguide converter of claim 1, wherein a tip of the one end of the line conductor is opened, and a distance between the tip and the slot is approximately (2n - 1)/4 (n is a natural number) of the wavelength of the signal transmitted through the high frequency line.

23. (New) The high frequency line-to-waveguide converter of claim 1, wherein a tip of the one end of the line conductor is short-circuited to the ground conductor layer, and a distance between the tip and the slot is approximately (n -

1)/2 (n is a natural number) of the wavelength of the signal transmitted through the high frequency line.

24. (New) The high frequency line-to-waveguide converter of claim 7, wherein a distance between the internal ground conductor layer and the opening of the waveguide is approximately (2n - 1)/4 (n is a natural number) of a wavelength of an electromagnetic wave of a signal transmitted through the high frequency line.

25. (New) The high frequency line-to-waveguide converter of claim 7, wherein a tip of the one end of the line conductor is opened, and a distance between the tip and the slot is approximately (2n - 1)/4 (n is a natural number) of the wavelength of the signal transmitted through the high frequency line.

26. (New) The high frequency line-to-waveguide converter of claim 7, wherein a tip of the one end part of the line conductor is short-circuited to the same surface ground conductor layer, and the distance between the tip and the slot is approximately (n - 1)/2 (n is a natural number) of the wavelength of the signal transmitted through the high frequency line.